

(No Model.)

E. B. NEWCOMB.
Machine for Winding Dry Enameled Paper.

No. 236,068.

Patented Dec. 28, 1880.

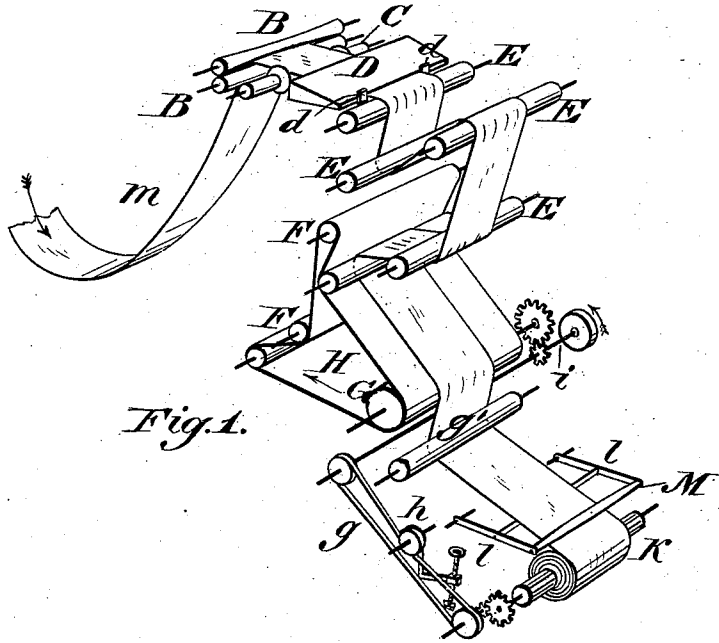


Fig. 1.

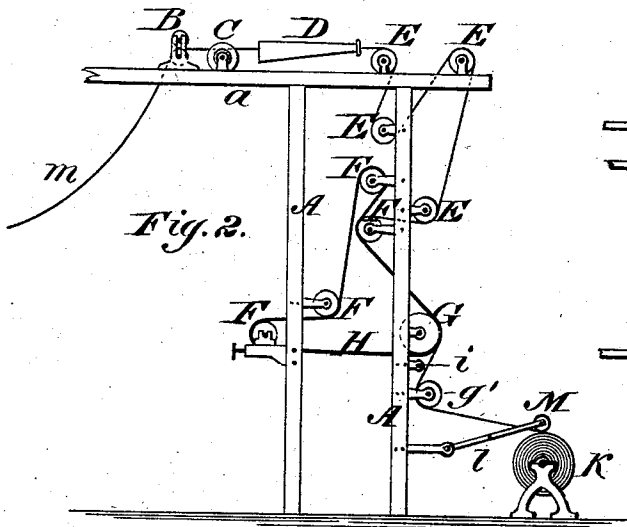


Fig. 2.



Fig. 3. B

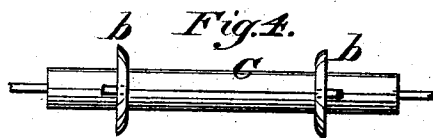


Fig. 4. b C b

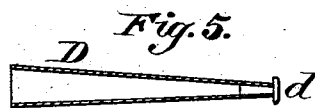


Fig. 5. D d

WITNESSES:

Donn P. Twitchell.
C. Spadgwick

INVENTOR:

E. B. Newcomb
BY *Munn Ho*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

ERWIN B. NEWCOMB, OF CUMBERLAND MILLS, MAINE, ASSIGNOR TO
S. D. WARREN, OF BOSTON, MASSACHUSETTS.

MACHINE FOR WINDING DRY ENAMELED PAPER.

SPECIFICATION forming part of Letters Patent No. 236,068, dated December 28, 1880.

Application filed October 6, 1880. (No model.)

To all whom it may concern:

Be it known that I, ERWIN B. NEWCOMB, of Cumberland Mills, in the county of Cumberland and State of Maine, have invented a new and useful Improvement in Machines for Winding Dry Enameled Paper, of which the following is a specification.

My improvements relate to machines for winding paper and similar materials from a loose condition into hard rolls, especially materials of a brittle nature—such as, for instance, enameled paper, which is usually wound by hand on account of its liability to curl at the edges and become broken.

The object of my improvements is to provide for winding materials of the character named by power, to which end the invention consists in smoothing and guide rollers and tubes of peculiar construction, combined with an endless belt and winding-rolls, whereby the loose material is drawn and guided to the winding-reels in a flat condition.

The construction and operation are set forth in detail hereinafter with reference to the accompanying drawings, wherein—

Figure 1 is a perspective view of the winding-machine, with the supporting-standards removed to show the construction more clearly. Fig. 2 is a side elevation of the machine; and Figs. 3, 4, and 5 are detail views.

Similar letters of reference indicate corresponding parts.

A A are standards that support the mechanism. In suitable bearings on horizontal bars *a* at the upper ends of standards A are rollers B B, which move in contact, or nearly so, one above the other. The upper one of this pair, which I term the "smoothing-rollers," is formed slightly concave on its surface, as shown most clearly in Fig. 3, so that at the mid-length of the rolls there is a space of about a quarter of an inch between the two rolls.

Next to the rolls B is a single guide-roll, C, (shown separately in Fig. 4,) which is provided with collars or heads *b*, that are adjustable lengthwise of the roll, so that the space between them can be varied to suit the width of material. The heads *b* may be fitted to slide on the roll, and set-screws or springs

provided for retaining them in place as adjusted, or they may be rendered adjustable in any suitable manner.

Next to the guide-roll C is a guide-box, D, the same being a box wedge shape in the direction of the material, the smaller end at the delivery side having a narrow opening, (see Fig. 5,) in which guides *d d* are fitted adjustably, so that the distance between them can be varied.

Behind the guide-box D are two plain friction-rolls, E, on bars *a*, and fitted on standards A are two similar friction-rolls, E, all of which are to be fitted with friction-straps, or otherwise held by friction devices in order to give tension to the material passing over them.

F F F F and G are rolls, suitably supported by brackets on standards A, and forming a series of rolls carrying an endless apron, H, of rubber or other flexible material.

i is a shaft, which is to be revolved by power, and is geared to a pinion on the shaft of roll G, whereby apron H is driven.

K is the winding-reel, fitted for being driven by a friction-belt, *g*, at a greater rate of speed than apron H. The belt is fitted with an adjustable pulley, *h*, by which the belt is tightened upon reel K.

M is a small roll sustained in arms *l*, that are hung loosely on standards A, so that said roll M may rest upon the roll of material on reel K. The roll M is formed convex on its surface, or of largest diameter at its mid-length.

The operation is as follows: The loose material (represented at *m*) first passes between the smoothing-rolls B, which act to flatten the edges and straighten out any curls, while allowing free movement to the material. It then passes over first guide-roll, C, between heads *b*, and through box D between the guides *d*. The box D acts to retain the material in a flat condition, so that it passes to the series of rolls E in proper shape. The rolls E serve to give the desired tension to the material as it is drawn by the apron H, to which the material clings, so that it can move no faster nor at less speed than the apron. From the apron the material passes beneath a guide-roll, *g'*, to reel K, and the reel K being speeded to draw the material from the apron, it is wound in a

tight roll. The roll M rests on the material as it passes onto the reel, and by the shape of the roll M the band of material is worked outward from the center to each side, and wrinkling thus prevented.

5 Having thus described my invention, I claim as new and desire to secure by Letters Patent—

10 In a machine for winding enameled paper, the combination, with endless apron H and

reel K, of the rolls B B, one plain and the other concaved, the collared guide-roll *b* C, the wedge-shaped box D, having guides *d d*, and the tension-rolls E, arranged substantially as described, and for the purpose specified.

ERWIN B. NEWCOMB.

Witnesses:

JOSEPH DUNNELL,
A. A. CORDWELL.